

Exercise 1 Vertical Lines

Vertical lines do not have a slope. They consist of all points with the same x -coordinate. For example, the linear relationship with data given in this table consists of points with x -coordinate equal to 5.

x	y
5	-1
5	0
5	1
5	2

Since this line does not have a slope, we can not express its equation in either point-slope or slope-intercept forms. Instead, a vertical line has an equation of the form $x = C$, where C is the common x -coordinate between all the points, meaning that the line given in the table above has equation $x = 5$.

- (a) The line given by the following table of data:

x	y
2	-3
2	1
2	1
2	3
2	5

has equation given by $x = \boxed{2}$.

- (b) The line given by the following table of data:

x	y
$-3/4$	-8
$-3/4$	-7
$-3/4$	-6
$-3/4$	-5

has equation given by $x = \boxed{-\frac{3}{4}}$.